What is claimed is:

1. A neutral liposome comprising an encapsulated compound and a post-insertion compound, wherein the post-insertion compound comprises a hydrophilic component and an anchoring component, wherein the encapsulated compound is located within the neutral liposome, and the post-insertion compound is adjacent to the outer surface of the neutral liposome.

2. The liposome of claim 1, wherein the liposome comprises one or more neutral lipids.

3. The liposome of claim 2, wherein the neutral lipid comprises phosphatidyl choline, sphingomyelin, dipalmitoyl phosphatidylcholine, or hydrogenated soy phosphatidylcholine.

4. The liposome of claim 2, wherein the neutral lipid comprises distearoyl phosphatidylcholine.

5. The liposome of claim 1, wherein the neutral liposome further comprises a steroid compound, an anti-oxidant, or a combination thereof.

6. The liposome of claim 1, wherein the neutral liposome further comprises an antioxidant, and the antioxidant comprises glutathione or homocysteine.

7. The liposome of claim 1, wherein the neutral liposome further comprises a steroid compound, and the steroid compound comprises cholestanol, coprostanol, cholestane, or an organic acid derivative of a sterol.

8. The liposome of claim 1, wherein the neutral liposome further comprises a steroid compound, and the steroid compound is cholesterol.

9. The liposome of claim 1, wherein the neutral liposome contains no anionic lipid.

10. The liposome of claim 1, wherein the neutral liposome contains one or more anionic lipids, wherein the total amount of the anionic lipids is less than 6 mole percent of the total lipids.

11. The liposome of claim 10, wherein the anionic lipid comprises of phosphatidyl serine, phosphatidyl inositol, phosphatidic acid, cardiolipin, or phosphatidyl glycerol.

12. The liposome of claim 10, wherein the anionic lipid comprises dimyristoyl phosphatidylglycerol.

13. The liposome of claim 1, wherein the encapsulated compound comprises hemoglobin, a protein, an enzyme, an immunoglobulin, a peptide, an oligonucleotide, or a nucleic acid.

14. The liposome of claim 1, wherein the encapsulated compound comprises hemoglobin, wherein the hemoglobin comprises stroma-free hemoglobin.

15. The liposome of claim 14, wherein the amount of hemoglobin that is encapsulated within the liposome is from 1 to 12 g/dl.

16. The liposome of claim 1, wherein the post-insertion compound comprises the reaction product between a hydrophilic compound and an anchoring compound.

17. The liposome of claim 16, wherein the hydrophilic compound comprises polyvinylpyrrolidone, polyvinylmethylether, polymethyloxazoline, polyethyloxazoline, polyhydroxypropyloxazoline, polyhydroxypropylmethacrylamide,polymethacrylamide, polydimethylacrylamide, polyhydroxypropylmethacrylate, polyhydroxyethylacrylate, hydroxymethylcellulose, hydroxyethylcellulose, polyethylene glycol, polyaspartamide, or a hydrophilic peptide sequence.

18. The liposome of claim 16, wherein the hydrophilic compound comprises polyethylene glycol.

19. The liposome of claim 16, wherein the anchoring compound comprises phosphatidylethanolamine with a fatty acid chain having from 14 to 22 carbon atoms, cholesterol, or ceramide.

20. The liposome of claim 1, wherein the post-insertion compound comprises polyethylene glycol-distearoyl phosphatidylethanolamine.

21. The liposome of claim 1, wherein the liposome further comprises a plasma expander.

22. The liposome of claim 21, wherein the plasma expander comprises a starch compound, albumin, dextran, or gelatin.

23. The liposome of claim 21, wherein the plasma expander comprises hetastarch or hydroxyethyl starch.

24. The liposome of claim 21, wherein the plasma expander comprises pentastarch.

25. The liposome of claim 1, wherein the size of the liposome is from 100 nm to 350 nm.

26. The liposome of claim 1, wherein the size of the liposome is from 200 nm to 275 nm.

27. The liposome of claim 1, wherein the liposome is composed of distearoyl phosphatidylcholine, the encapsulated compound is stroma-free hemoglobin, the post-insertion compound is polyethylene glycol-distearoyl phosphatidylethanolamine, and the liposome further comprises pentastarch.

28. A pharmaceutical composition comprising a liposome of any one of claims 1-27 and a pharmaceutically-acceptable carrier.

29. A method for preparing a liposome-encapsulated compound, comprising:

(a) admixing an unencapsulated compound with at least one neutral lipid;

(b) microfluidizing the suspension produced in step (a) to produce a mixture comprising a first liposome and unencapsulated compound;

(c) ultrafiltering the mixture produced in step (b) to remove the unencapsulated compound; and

(d) contacting the resultant liposomes after ultrafiltering step (c) with a post-insertion compound.

30. The method of claim 29, wherein a plasma expander is added after step (a) and prior to step (d).

31. The method of claim 29, wherein after step (b) and prior to step (c), the first liposome is contacted with a plasma expander.

32. The method of claim 29, wherein the method is continuous.

33. The method of claim 29, wherein the unencapsulated compound after step (c) is recycled and introduced into step (a).

34. The liposome produced by the method of any one of claims 29-33.

35. A method of treating or preventing a disease in a subject comprising administering to the subject a liposome of any one of claims 1-27 or the pharmaceutical composition of claim 28.

36. A method for screening a liposome-encapsulated compound for an activity, comprising the steps of:

a) measuring a known activity or pharmacological activity of the liposome-encapsulated compound of any one of claims 1-27; and

b) measuring the same activity or pharmacological activity of the corresponding unencapsulated compound.